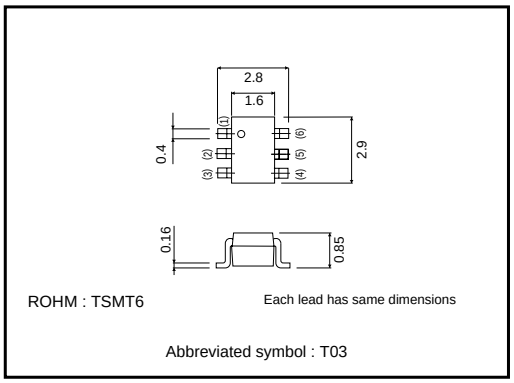
General purpose amplification (–30V, –5A)

QST3

●**Application**
Low frequency amplifier
Driver

●**Features**
1) Collector current is large.
2) Collector saturation voltage is low.
$V_{CE(sat)} \leqq -250mV$
At $I_C = -2A / I_B = -40mA$

●**External dimensions** (Unit : mm)

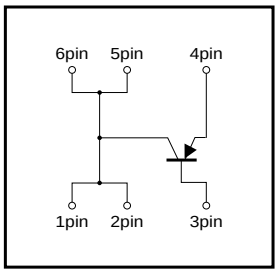


●**Absolute maximum ratings** (Ta=25°C)

Parameter	Symbol	Limits	Unit
Collector-base voltage	V_{CBO}	–30	V
Collector-emitter voltage	V_{CEO}	–30	V
Emitter-base voltage	V_{EBO}	–6	V
Collector current	I_C	–5	A
	I_{CP}	–8	A ∗1
Power dissipation	P_C	500	mW ∗2
		1.25	W ∗3
Junction temperature	Tj	150	°C
Range of storage temperature	Tstg	–55 to +150	°C

∗1 Single pulse, Pw=1ms
∗2 Each Terminal Mounted on a Recommended
∗3 Mounted on a 25mm×25mm×t 0.8mm Ceramic substrate

●**Equivalent circuit**



●**Electrical characteristics** (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BV_{CBO}	–30	–	–	V	I_C= –10μA
Collector-emitter breakdown voltage	BV_{CEO}	–30	–	–	V	I_C= –1mA
Emitter-base breakdown voltage	BV_{EBO}	–6	–	–	V	I_E= –10μA
Collector cutoff current	I_{CBO}	–	–	–100	nA	V_{CB}= –30V
Emitter cutoff current	I_{EBO}	–	–	–100	nA	V_{EB}= –6V
Collector-emitter saturation voltage	$V_{CE(sat)}$	–	–170	–250	mV	I_C= –2A, I_B= –40mA
DC current gain	h_{FE}	270	–	680	–	V_{CE}= –2V, I_C= –500mA ∗
Transition frequency	f_T	–	200	–	MHz	V_{CE}= –2V, I_E=500mA, f=100MHz ∗
Corrector output capacitance	Cob	–	60	–	pF	V_{CB}= –10V, I_E=0A, f=1MHz

∗Pulsed

●Packaging specifications

	Package	Taping
Type	Code	TR
	Basic ordering unit (pieces)	3000
QST3		○

●Electrical characteristic curves

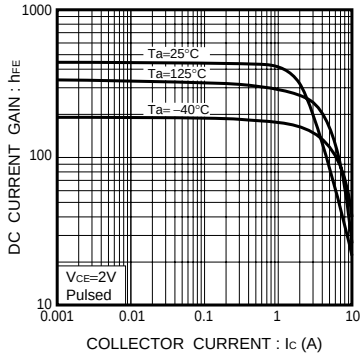


Fig.1 DC current gain vs. collector current

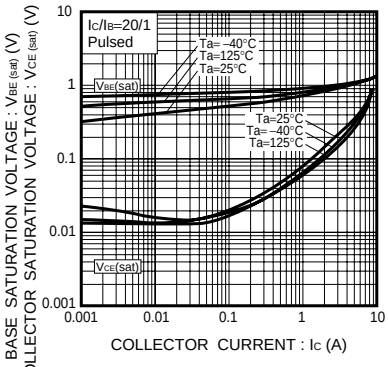


Fig.2 Collector-emitter saturation voltage base-emitter saturation voltage vs. collector current

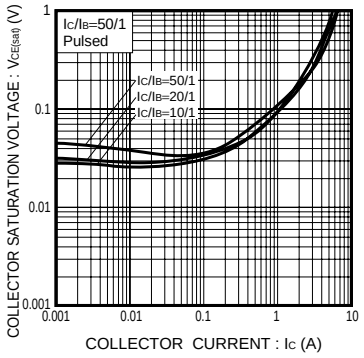


Fig.3 Collector-emitter saturation voltage vs. collector current

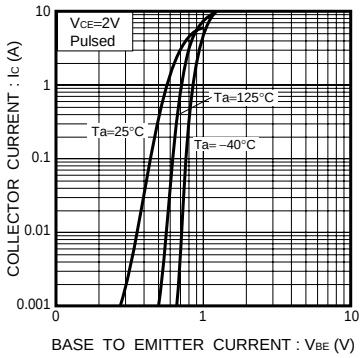


Fig.4 Grounded emitter propagation characteristics

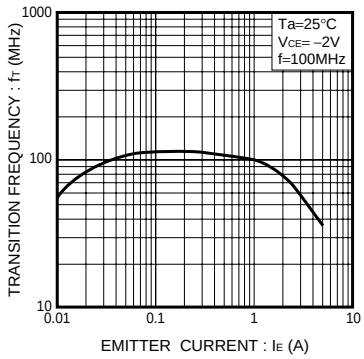


Fig.5 Gain bandwidth product vs. emitter current

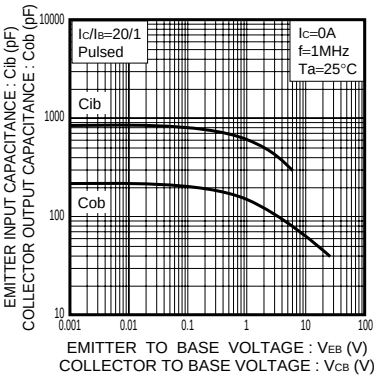


Fig.6 Collector output capacitance vs. collector-base voltage Emitter input capacitance vs. emitter-base voltage

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